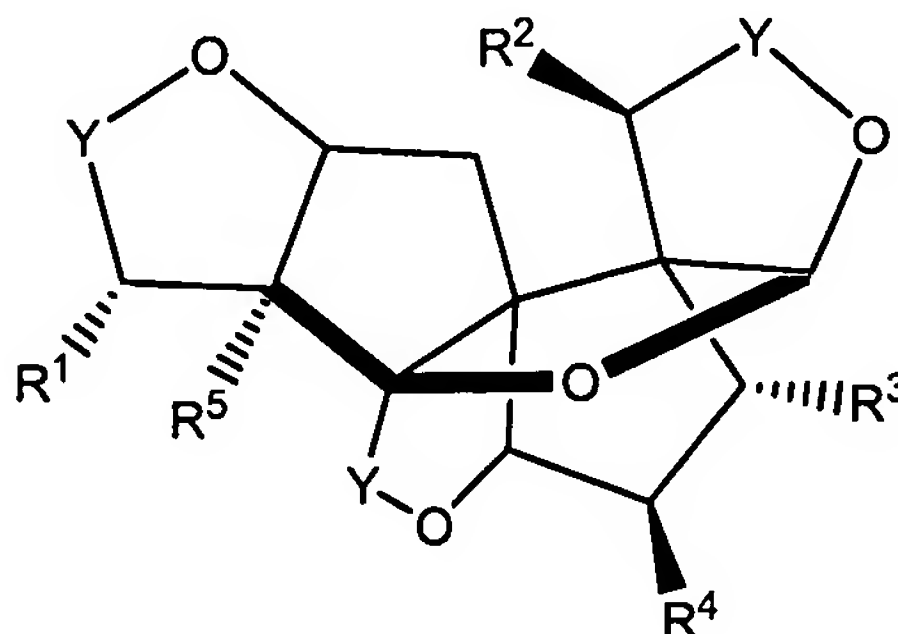


AMENDMENTS TO THE CLAIMS

1. (Original): A compound having the formula:



(I)

or a pharmaceutically acceptable salt thereof,

wherein:

each occurrence of Y is independently $-\text{CH}_2-$ or $-\text{C}(\text{O})-$;

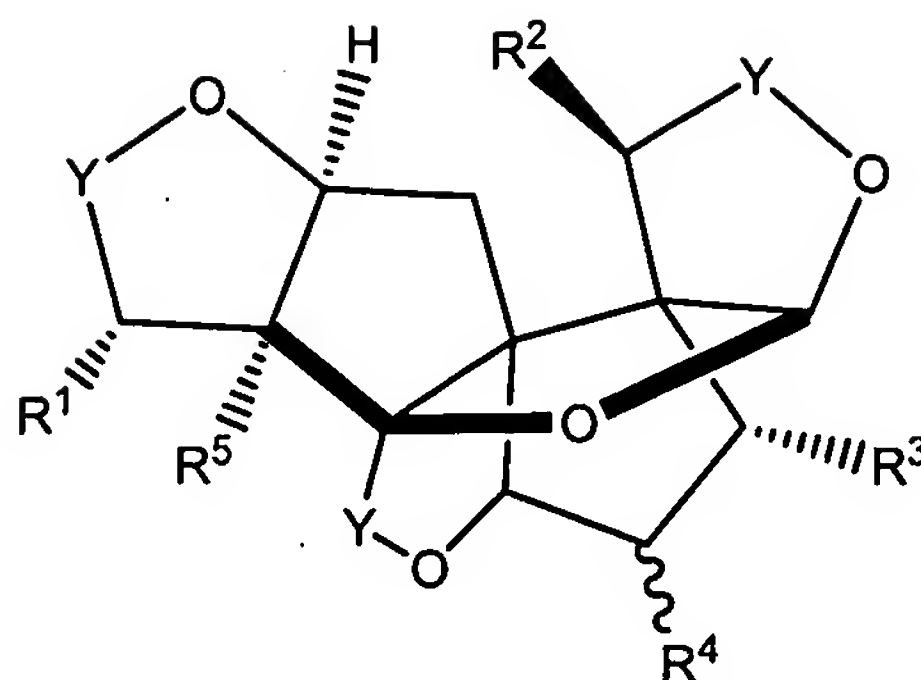
R^1 and R^3 are each independently $-\text{H}$ or $-\text{C}_1-\text{C}_6$ alkyl;

R^2 is $-\text{H}$, $-\text{OH}$, $-\text{O}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkenyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}(\text{O})-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}(\text{O})$ -aryl, $-\text{O}-\text{CO}-\text{NH}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{SO}_2-\text{C}_1-\text{C}_5$ alkyl, or $-\text{O}-\text{SO}_2$ -aryl;

R^4 is $-\text{C}_1-\text{C}_5$ alkyl, $-\text{NH}_2$, -halo, $-\text{C}_2-\text{C}_5$ alkenyl, $-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkenyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}(\text{O})-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}(\text{O})$ -aryl, $-\text{O}-\text{CO}-\text{NH}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{SO}_2-\text{C}_1-\text{C}_5$ alkyl, or $-\text{O}-\text{SO}_2$ -aryl; and

R^5 is $-\text{H}$ or $-\text{OH}$.

2. (Original): A composition consisting essentially of two or more structurally distinct compounds, each having the formula:



(II)

wherein:

each occurrence of Y is independently $-\text{CH}_2-$ or $-\text{C}(\text{O})-$;

R¹ and R³ are each independently $-\text{H}$ or $-\text{C}_1-\text{C}_6$ alkyl;

R¹ and R³ are each independently $-\text{H}$ or $-\text{C}_1-\text{C}_6$ alkyl;

R² is $-\text{H}$, $-\text{OH}$, $-\text{O}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkenyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}(\text{O})-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}(\text{O})$ -aryl, $-\text{O}-\text{CO}-\text{NH}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{SO}_2-\text{C}_1-\text{C}_5$ alkyl, or $-\text{O}-\text{SO}_2$ -aryl;

R⁴ is $-\text{C}_1-\text{C}_5$ alkyl, $-\text{NH}_2$, -halo, $-\text{C}_2-\text{C}_5$ alkenyl, $-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkenyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}(\text{O})-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}(\text{O})$ -aryl, $-\text{O}-\text{CO}-\text{NH}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{SO}_2-\text{C}_1-\text{C}_5$ alkyl, or $-\text{O}-\text{SO}_2$ -aryl; and

R⁵ is $-\text{H}$ or $-\text{OH}$.

3. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), each occurrence of Y is $-\text{CH}_2-$.

4. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), each occurrence of Y is $-C(O)-$.

5. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), R^1 is $-C_1-C_6$ alkyl.

6. (Original): The composition of claim 5, wherein R^1 is methyl.

7. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), R^3 is $-C_1-C_6$ alkyl.

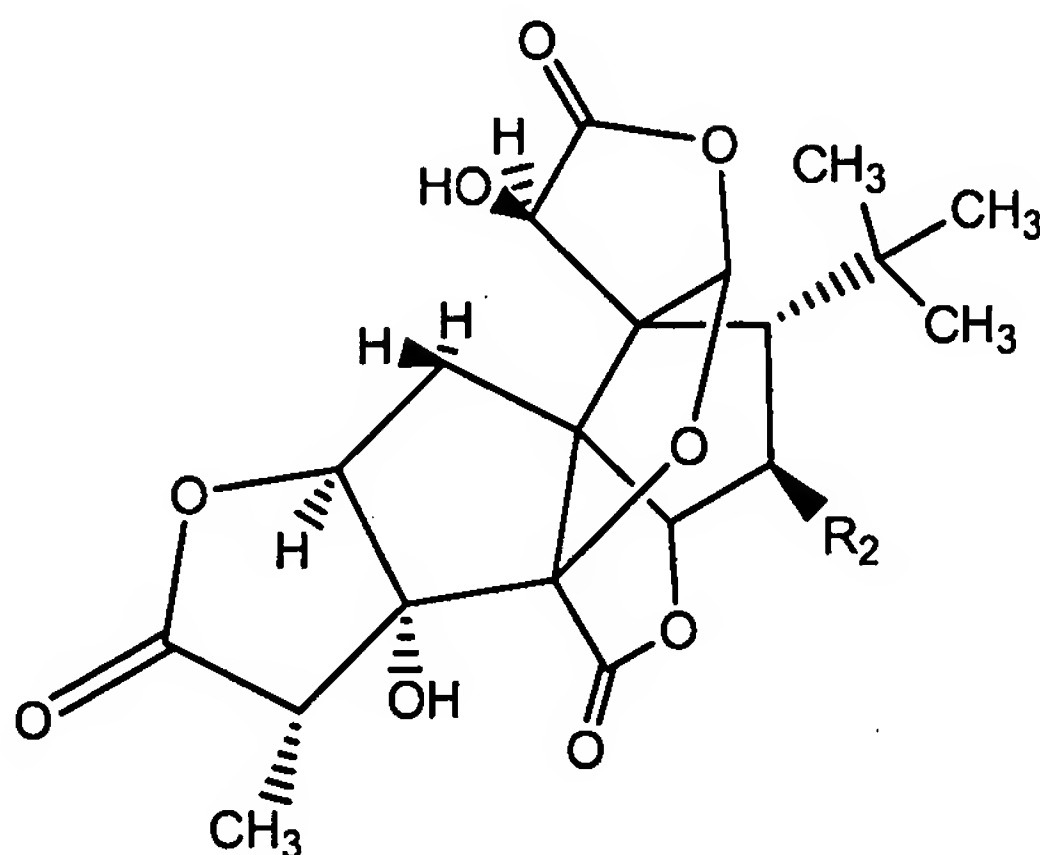
8. (Original): The composition of claim 7, wherein R^3 is *tert*-butyl.

9. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), R^4 is $-OH$.

10. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), R^5 is $-OH$.

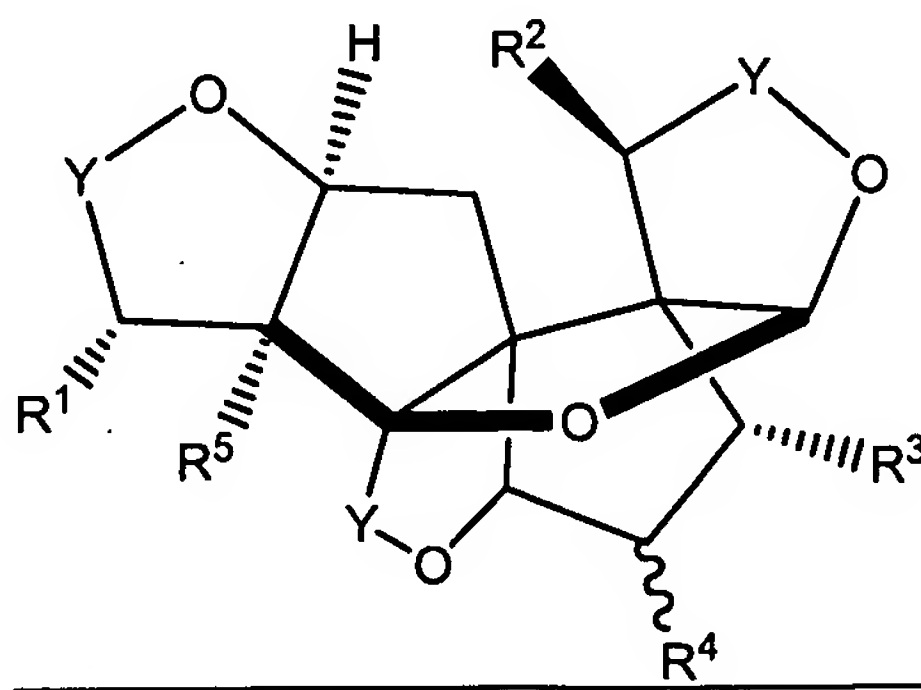
11. (Currently Amended): The composition of claim 2, wherein for at least one compound of ~~formula (I)~~, formula (II), R^2 is $-OH$.

12. (Currently Amended): ~~[[The]]~~ A composition of claim 2, comprising consisting essentially of a first compound having the formula:



wherein R_2 is $-H$, $-C_1-C_5$ alkyl, $-OH$, $-NH_2$, $-halo$, $-C_2-C_5$ alkenyl, $-C_2-C_5$ alkynyl, $-O-C_1-C_5$ alkyl, $-O-C_2-C_5$ alkenyl, $-O-C_2-C_5$ alkynyl, $-O-C(O)-C_1-C_5$ alkyl, $-O-C(O)-aryl$, $-O-CO-NH-C_1-C_5$ alkyl, $-O-SO_2-C_1-C_5$ alkyl, or $-O-SO_2-aryl$;

and one or more structurally distinct compounds, each having the formula:



(II)

wherein each occurrence of Y is independently $-CH_2-$ or $-C(O)-$;

R^1 and R^3 and are each independently $-H$ or $-C_1-C_6$ alkyl;

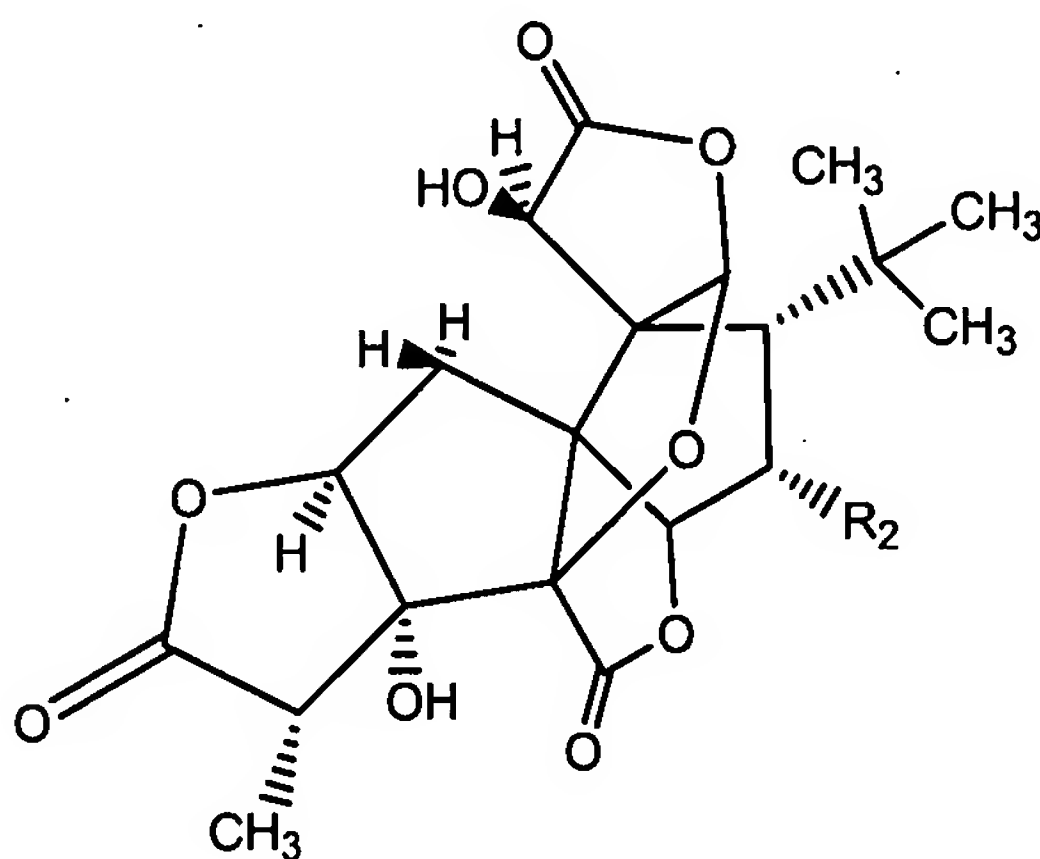
R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

R² is -H, -OH, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

R⁴ is -C₁-C₅ alkyl, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl; and

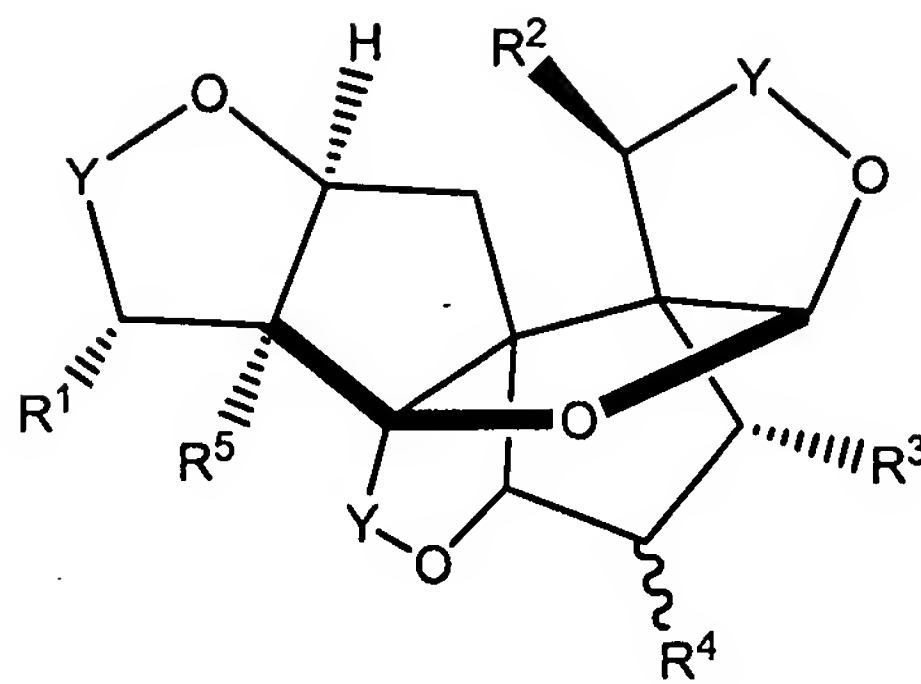
R⁵ is -H or -OH.

13. (Currently Amended): ~~[[The]]~~ A composition of claim 2, comprising consisting essentially of a first compound having the formula:



wherein R₂ is -H, -C₁-C₅ alkyl, -OH, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

and one or more structurally distinct compounds, each having the formula:



(II)

each occurrence of Y is independently -CH₂- or -C(O)-;

R¹ and R³ and are each independently -H or -C₁-C₆ alkyl;

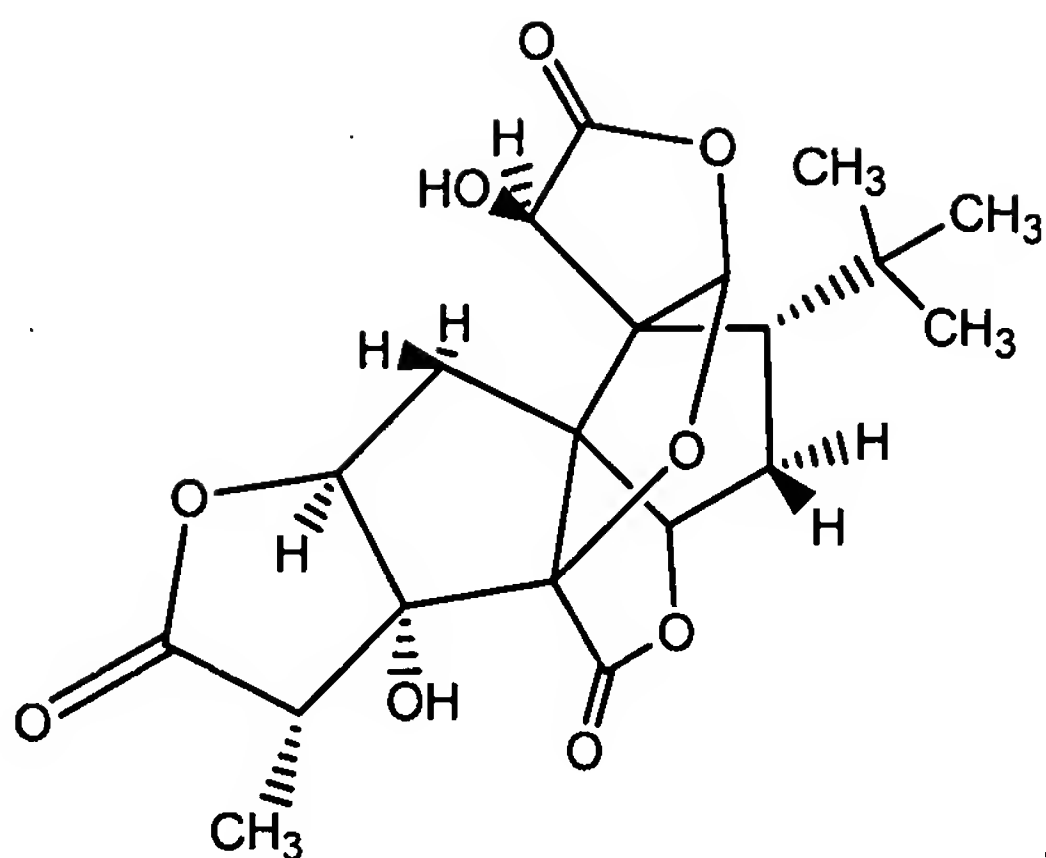
R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

R² is -H, -OH, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

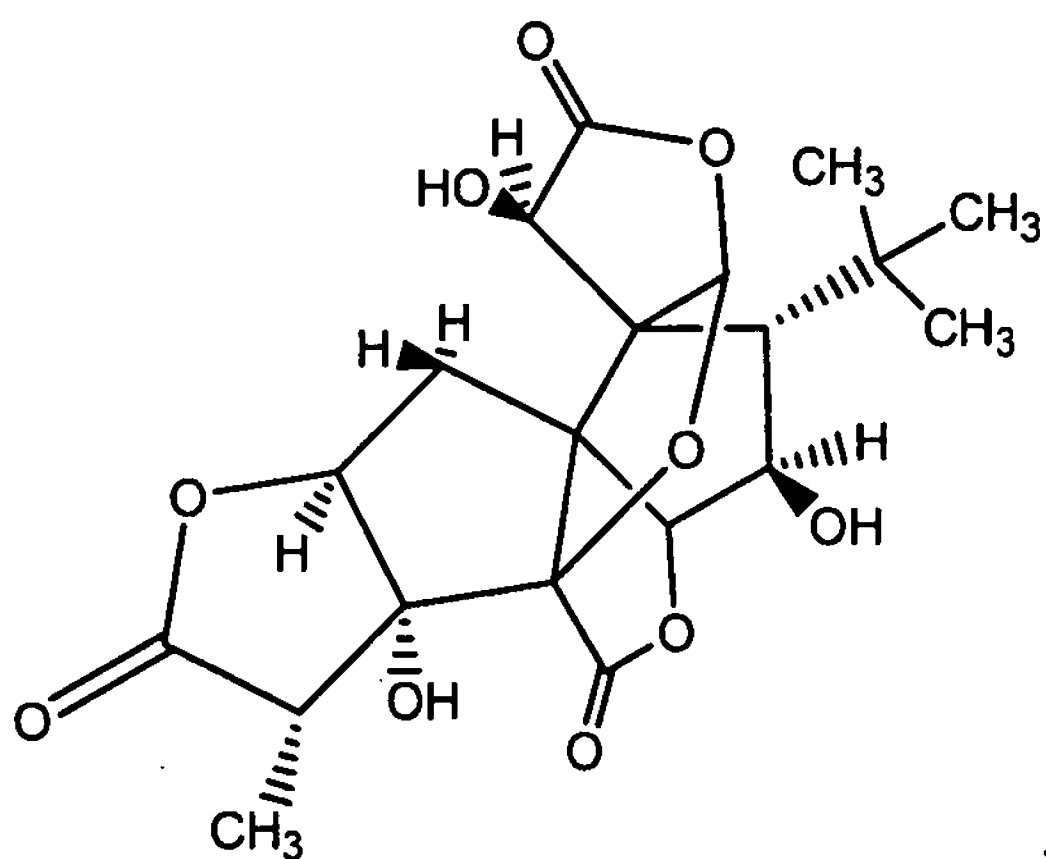
R⁴ is -C₁-C₅ alkyl, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl; and

R⁵ is -H or -OH.

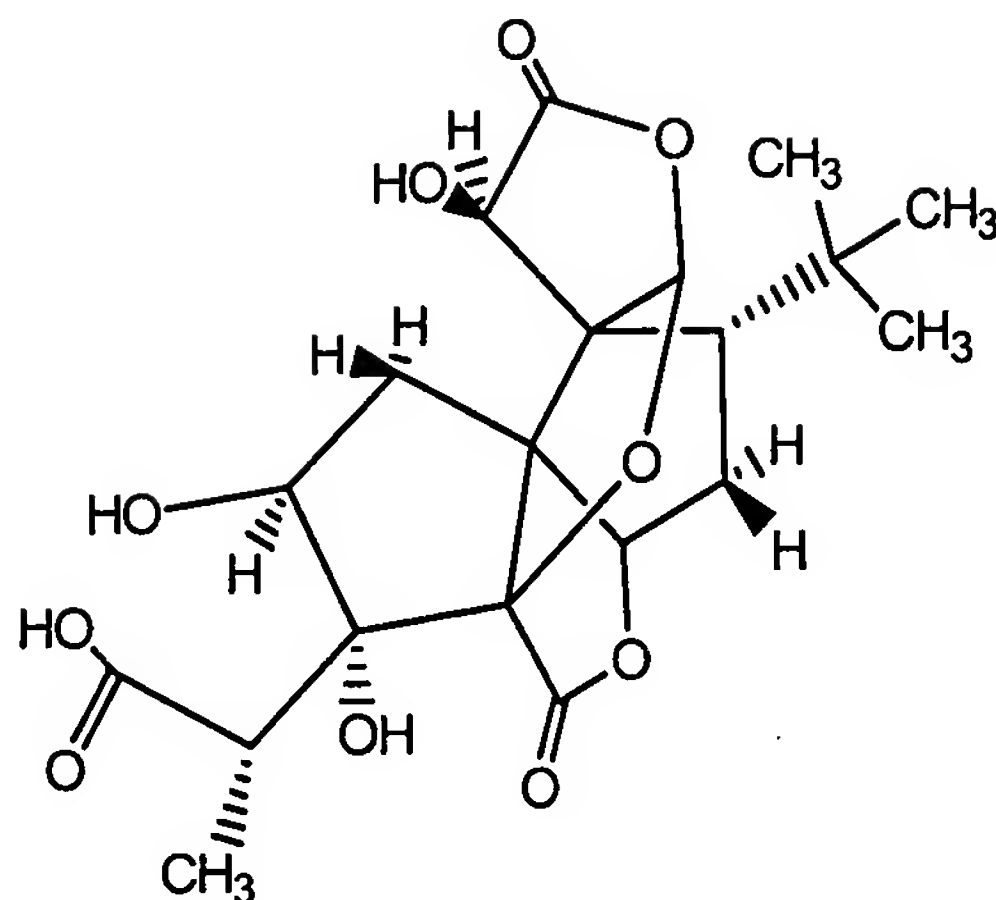
14. (Currently Amended): The composition of claim 2, ~~comprising the~~ 12, wherein the first compound is a compound having the formula:



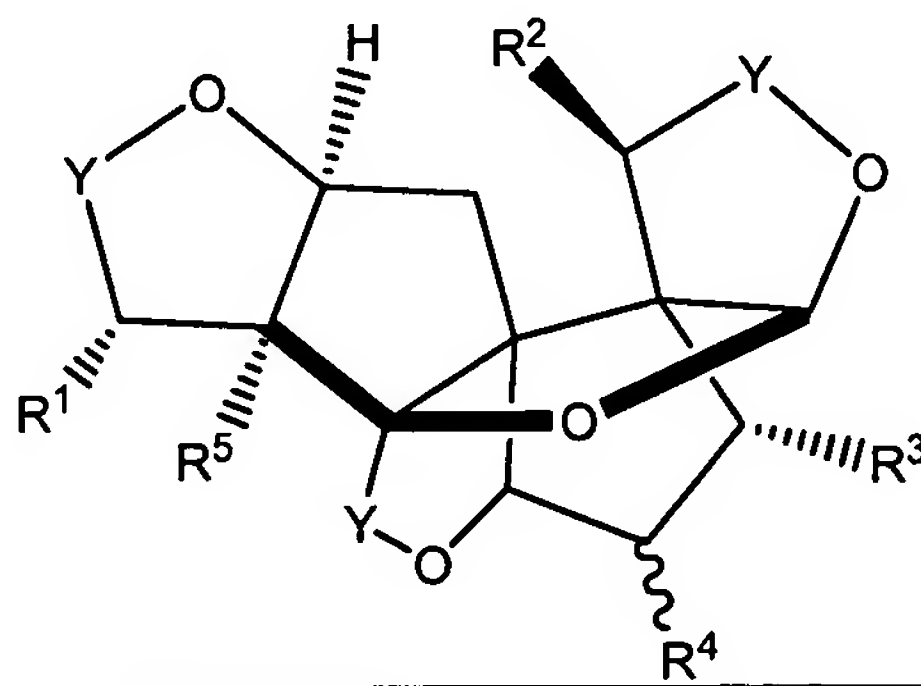
15. (Currently Amended): The composition of claim 2, ~~comprising the~~ 12, wherein the first compound is a compound having the formula:



16. (Currently Amended): A composition consisting essentially of a ~~comprising the composition of claim 2 and the~~ compound having the formula:



and one or more structurally distinct compounds, each having the formula:



(II)

wherein:

each occurrence of Y is independently $-\text{CH}_2-$ or $-\text{C}(\text{O})-$;

R^1 and R^3 are each independently $-\text{H}$ or $-\text{C}_1-\text{C}_6$ alkyl;

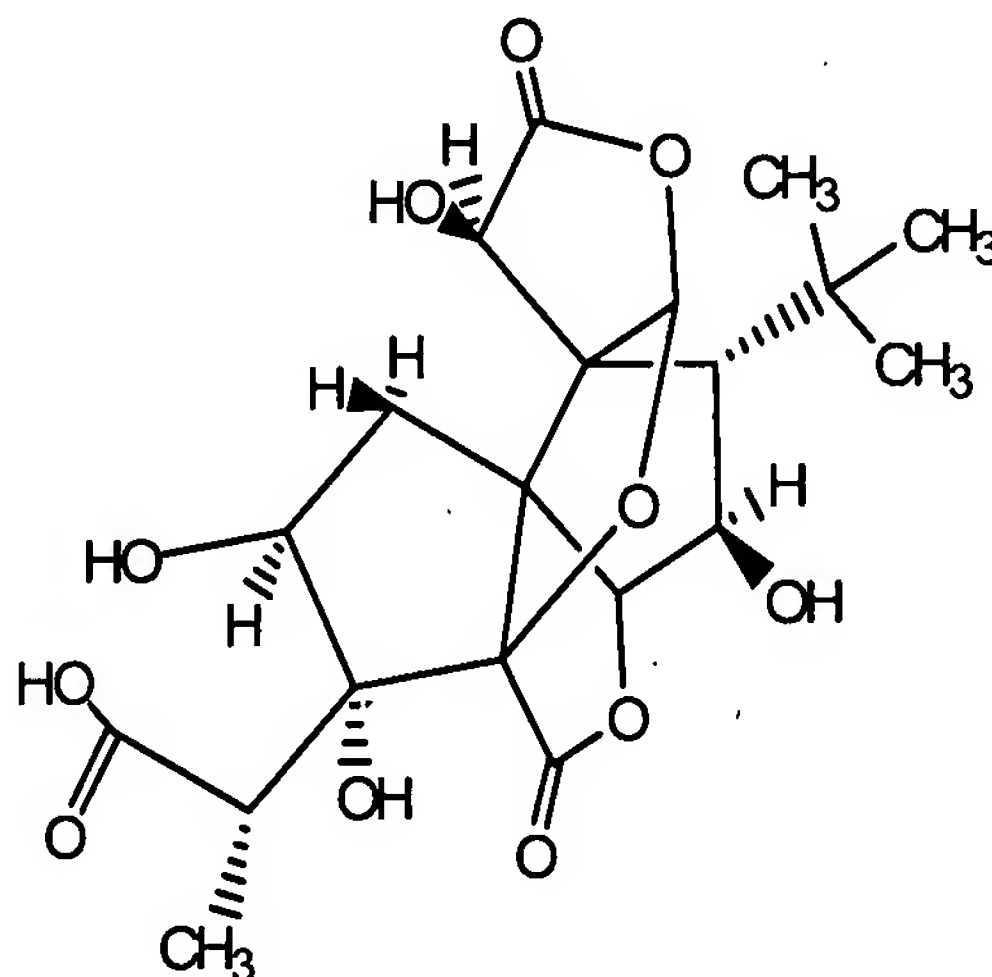
R^1 and R^3 are each independently $-\text{H}$ or $-\text{C}_1-\text{C}_6$ alkyl;

R^2 is $-\text{H}$, $-\text{OH}$, $-\text{O}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkenyl, $-\text{O}-\text{C}_2-\text{C}_5$ alkynyl, $-\text{O}-\text{C}(\text{O})-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{C}(\text{O})$ -aryl, $-\text{O}-\text{CO}-\text{NH}-\text{C}_1-\text{C}_5$ alkyl, $-\text{O}-\text{SO}_2-\text{C}_1-\text{C}_5$ alkyl, or $-\text{O}-\text{SO}_2$ -aryl;

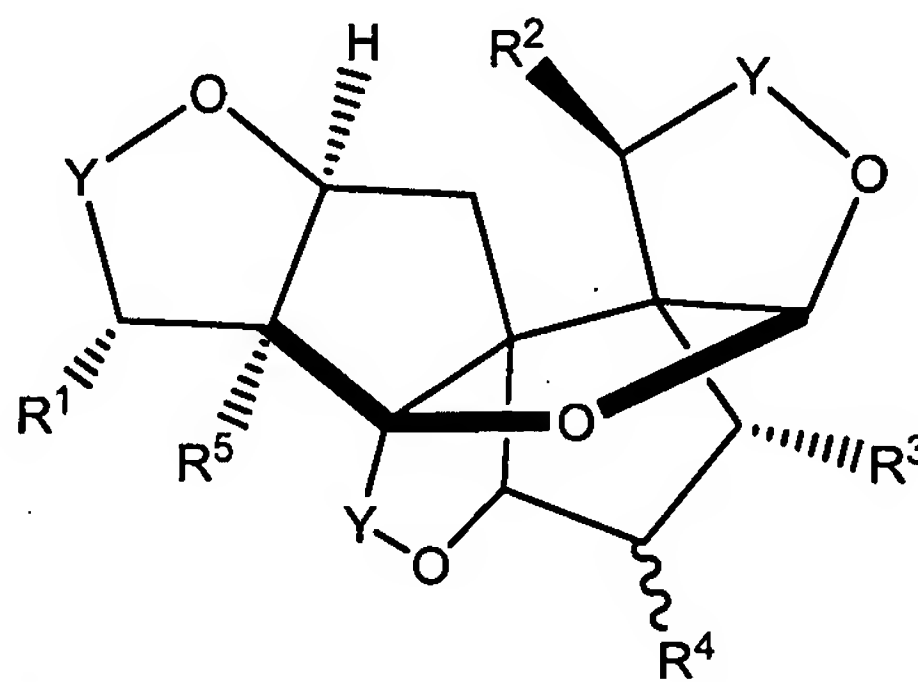
R^4 is $-C_1-C_5$ alkyl, $-NH_2$, $-halo$, $-C_2-C_5$ alkenyl, $-C_2-C_5$ alkynyl, $-O-C_1-C_5$ alkyl, $-O-C_2-C_5$ alkenyl, $-O-C_2-C_5$ alkynyl, $-O-C(O)-C_1-C_5$ alkyl, $-O-C(O)-aryl$, $-O-CO-NH-C_1-C_5$ alkyl, $-O-SO_2-C_1-C_5$ alkyl, or $-O-SO_2-aryl$; and

R^5 is $-H$ or $-OH$.

17. (Currently Amended): A composition consisting essentially of ~~comprising the composition of claim 2 and the~~ compound having the formula:



and one or more structurally distinct compounds, each having the formula:



(II)

wherein:

each occurrence of Y is independently -CH₂- or -C(O)-;

R¹ and R³ and are each independently -H or -C₁-C₆ alkyl;

R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

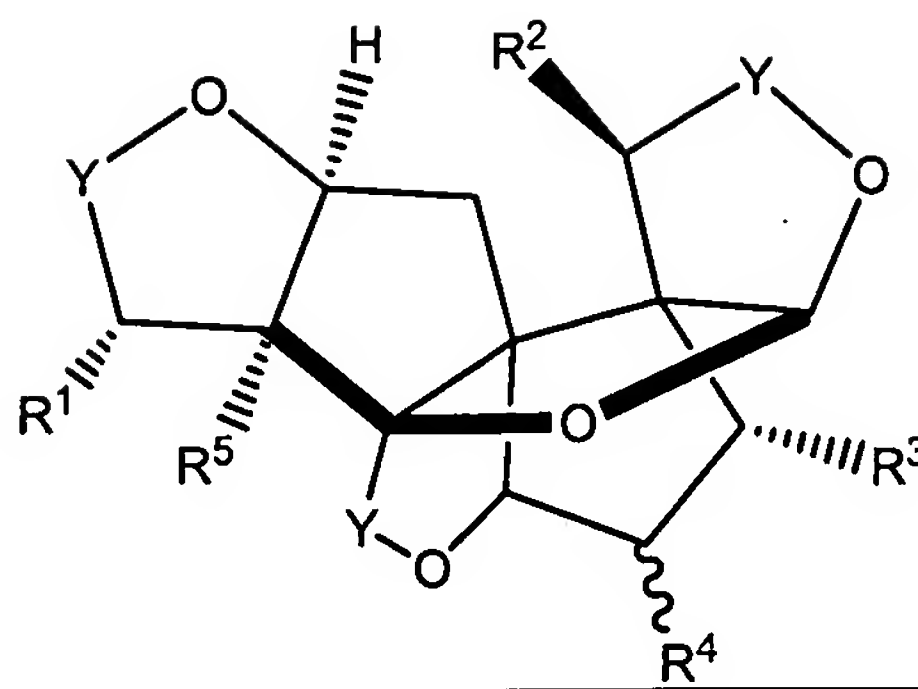
R² is -H, -OH, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

R⁴ is -C₁-C₅ alkyl, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl; and

R⁵ is -H or -OH.

18. (Currently Amended): [[A]] The composition of claim 2, wherein the composition consisting consists essentially of Ginkgolide A and Ginkgolide J.

19. (Currently Amended): [[The]] A composition of claim 2 or claim 18, further comprising consisting essentially of an antioxidant and two or more structurally distinct compounds, each having the formula:



(II)

wherein:

each occurrence of Y is independently -CH₂- or -C(O)-;

R¹ and R³ and are each independently -H or -C₁-C₆ alkyl;

R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

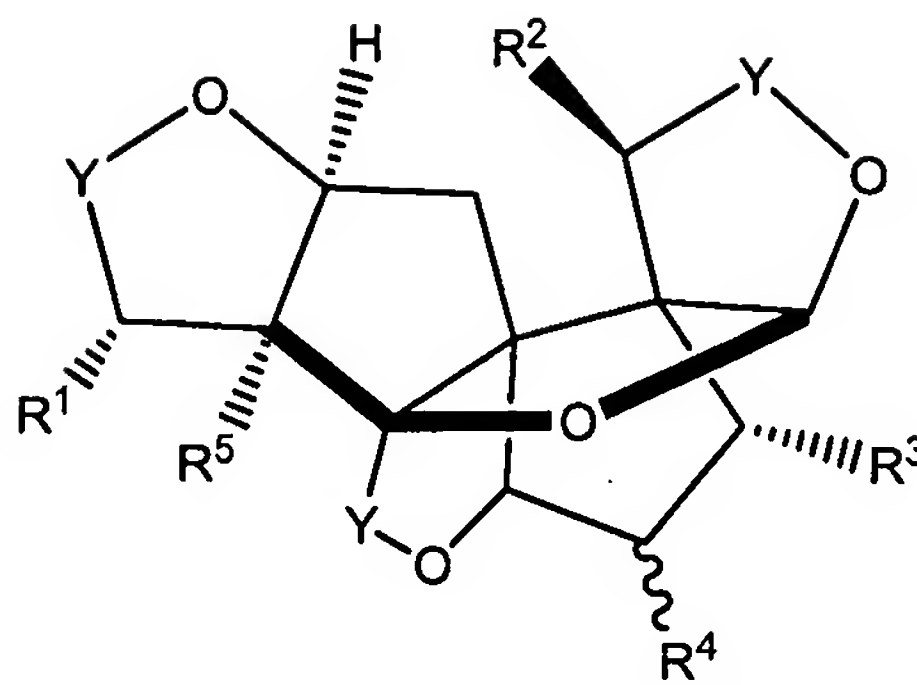
R² is -H, -OH, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

R⁴ is -C₁-C₅ alkyl, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl; and

R⁵ is -H or -OH.

20. (Original): The composition of claim 19, wherein the antioxidant is vitamin C, vitamin E, N-acetyl-L-cysteine, resveratrol, coenzyme Q, alpha-lipoic acid, lycopene, or any combination thereof.

21. (Currently Amended): The composition of claim 19, wherein the antioxidant ~~comprises~~ is a biflavone.
22. (Original): The composition of claim 21, wherein the biflavone is amentoflavone, ailobetin, ginkgetin, isoginlgetin, sciadopirysin, or any combination thereof.
23. (Currently Amended): The composition of claim 19, wherein the antioxidant is claim 2, ~~further comprising~~ a flavonoid.
24. (Original): The composition of claim 23, wherein the flavonoid is a flavonol glycoside.
25. (Original): The composition of claim 24, wherein the flavonol glycoside is quercetin, kaempferol, isorhamnetin, or any combination thereof.
26. (Currently Amended): ~~[[The]] A composition of claim 2, further comprising~~ consisting essentially of a pharmaceutical carrier and two or more structurally distinct compounds, each having the formula:



(II)

wherein:

each occurrence of Y is independently -CH₂- or -C(O)-;

R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

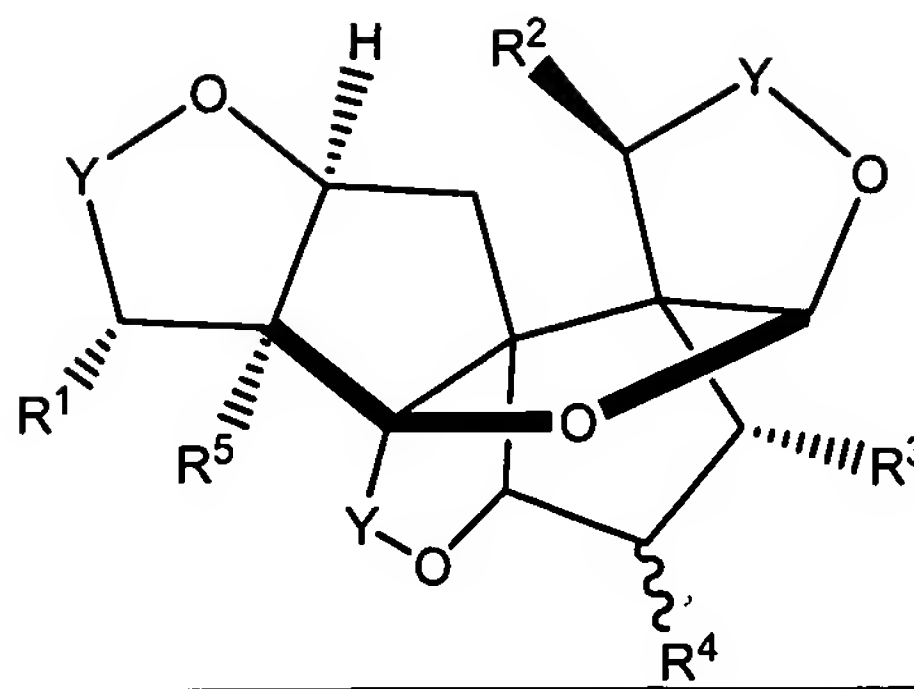
R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

R² is -H, -OH, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

R⁴ is -C₁-C₅ alkyl, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl; and

R⁵ is -H or -OH.

27. (Currently Amended): ~~[[The]]~~ A composition of claim 19, further comprising
consisting essentially of an antioxidant, a pharmaceutical carrier, and two or more structurally
distinct compounds, each having the formula:



(II)

wherein:

each occurrence of Y is independently -CH₂- or -C(O)-;

R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

R¹ and R³ are each independently -H or -C₁-C₆ alkyl;

R² is -H, -OH, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl;

R⁴ is -C₁-C₅ alkyl, -NH₂, -halo, -C₂-C₅ alkenyl, -C₂-C₅ alkynyl, -O-C₁-C₅ alkyl, -O-C₂-C₅ alkenyl, -O-C₂-C₅ alkynyl, -O-C(O)-C₁-C₅ alkyl, -O-C(O)-aryl, -O-CO-NH-C₁-C₅ alkyl, -O-SO₂-C₁-C₅ alkyl, or -O-SO₂-aryl; and

R⁵ is -H or -OH.

28. (Canceled).

29. (Currently Amended): A composition consisting essentially of ginkgolide A and ginkgolide J, wherein the composition is obtained using a process comprising ~~the steps of:~~

(i) extracting Ginkgo Biloba plant material with ethyl acetate and filtering the resultant solution to provide a first filtered residue and a first filtrate;

(ii) diluting the first filtered residue with diethyl ether and filtering the resultant solution to provide a second filtered residue and a second filtrate;

(iii) diluting the second filtered residue with methanol and filtering the resultant solution to provide a third residue and a third filtrate;

(iv) concentrating the third filtrate and subjecting the resultant concentrate to ~~chromatography~~ chromatography under conditions sufficient to provide a first fraction ~~containing~~ which comprises a mixture of Ginkgolide A and Ginkgolide B, and a second fraction ~~containing~~ which comprises a mixture of Ginkgolide C and Ginkgolide J;

(v) combining the first and second fractions ~~obtained in step (iv)~~ and concentrating the ~~resultant solution~~ combined first and second fractions to provide a concentrate ~~containing which~~ comprises Ginkgolide A, Ginkgolide B, Ginkgolide C and Ginkgolide J;

(vi) diluting the concentrate obtained in step (v) with an organic solvent and contacting the components of the resultant solution with benzyl bromide in the presence of a non-nucleophilic base under conditions sufficient to provide a product mixture ~~containing which~~ comprises unreacted Ginkgolide A, unreacted Ginkgolide J, benzylated Ginkgolide B and benzylated Ginkgolide C;

(vii) subjecting the product mixture obtained in step (vii) to chromatography under conditions sufficient to provide a composition comprising Ginkgolide A and Ginkgolide J, ~~wherein the composition does not contain any of: benzylated ginkgolide A, benzylated~~

~~ginkgolide J, ginkgolide B, benzylated ginkgolide B, ginkgolide C or benzylated ginkgolide C;~~

and

(viii) purifying the ~~composition~~ composition obtained in step (vii) ~~such that the~~ to obtain a
purified composition ~~consists~~ consisting essentially of Ginkgolide A and Ginkgolide J.

30. (Original): An extract comprising more than 10% terpene trilactones, wherein the proportion of terpene trilactones, by weight of the total amount of terpene trilactones, is from about 52% to about 62% bilobalide, from about 10% to about 20% ginkgolide A, from about 5% to about 15% ginkgolide B, from about 5% to about 15% ginkgolide C, and from about 1 % to about 8% ginkgolide J, and wherein the percentages of bilobalide, ginkgolide A, ginkgolide B, ginkgolide C and ginkgolide J add up to 100%.

31. (Original): An extract comprising more than 10% terpene trilactones, wherein the proportion of terpene trilactones, by weight of the total amount of terpene trilactones, is from about 20% to about 30% bilobalide, from about 37% to about 47% ginkgolide A, from about 10 % to about 20 % ginkgolide B, from about 10% to about 20% ginkgolide C, and from about 1 % to about 8% ginkgolide J, and wherein the percentages of bilobalide, ginkgolide A, ginkgolide B, ginkgolide C and ginkgolide J present in the composition add up to 100%.

32. (Original): The extract of claim 30 or 31, comprising about 65% terpene trilactones.

33. (Original): The extract of claim 30 or 31, comprising about 70% terpene trilactones.

34. (Currently Amended): A method of treating a neurological or neurodegenerative disease or disorder comprising administering to a subject an effective amount of the ~~compound, composition, or extract of any one of claims 1-33~~ compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31.

35. (Original): The method of claim 34, wherein the neurological or neurodegenerative disease or disorder is Alzheimer's disease.

36. (Currently Amended): A method of treating a memory disorder in a mammal comprising administering to a subject an effective amount of the ~~compound, composition, or extract of any one of claims 1-33~~ compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31.

37. (Currently Amended): A method of treating depression ~~in a mammal~~ comprising administering to a subject an effective amount of the ~~compound, composition, or extract of any one of claims 1-33~~ compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31.

38. (Currently Amended): The method of claim 34, wherein the neurological or neurodegenerative disease or disorder is ~~comprises a neurodegenerative-related condition such as, but not limited to,~~ multiple sclerosis, amyotrophic lateral sclerosis, Alpers' disease,

corticobasal ganglionic degeneration, multiple system atrophy, motor neuron disease, olivopontocerebellar atrophy, Parkinson's disease, prion disease, Rett syndrome, tuberous sclerosis, Shy-Drager syndrome, Huntington's disease, senile dementia, epileptic dementia, presenile dementia, post-traumatic dementia, vascular dementia and post stroke dementia, alcoholism, meningitis, neonatal hypoxia, stroke, global cerebral ischemia, or any combination thereof.

39. (Currently Amended): A method for treating neurological damage ~~in a mammal~~ comprising administering to a subject the compound, composition, or extract of any one of claims 1-33, compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31 in an amount effective to cause neurite out growth.

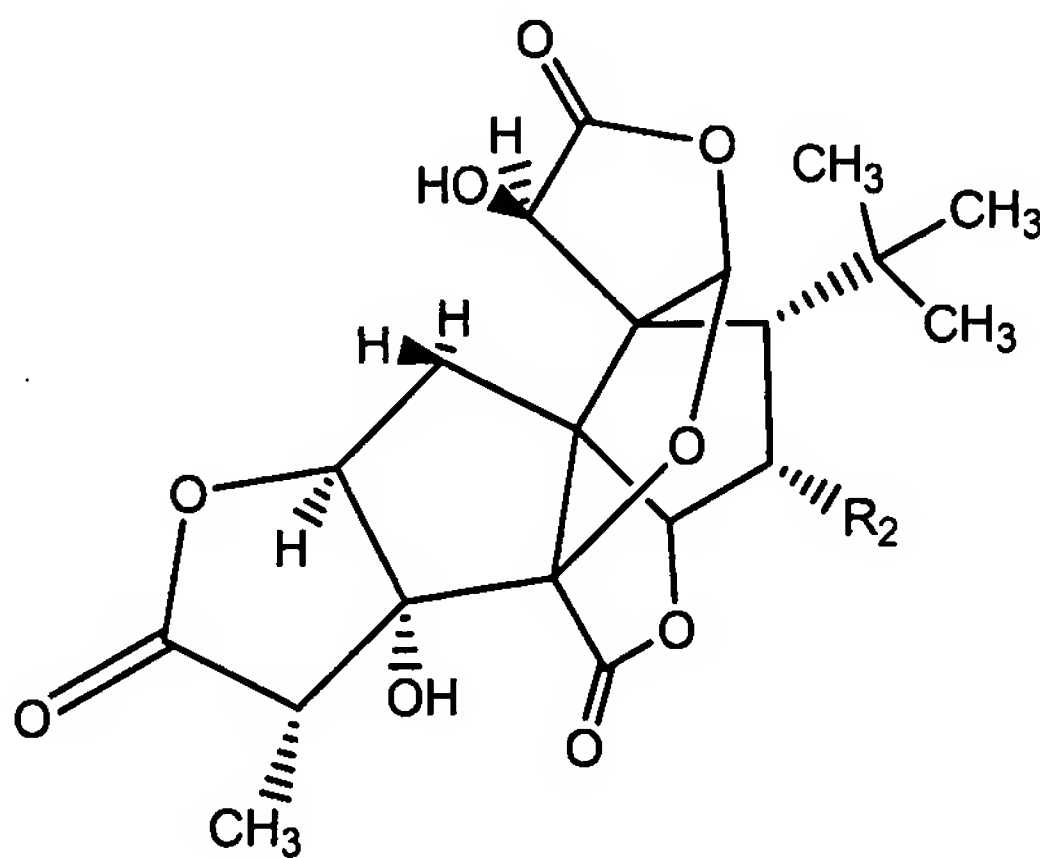
40. (Currently Amended): A method for protecting a neuron against neuronal cell death or long term potentiation impairment by beta amyloid protein comprising contacting the neuron with the ~~compound, composition, or extract of any one of claims 1-33~~ compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31.

41. (Currently Amended): A method for stimulating axonal out growth of a neuron comprising contacting the neuron with the ~~compound, composition, or extract of any one of claims 1-33~~ compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31.

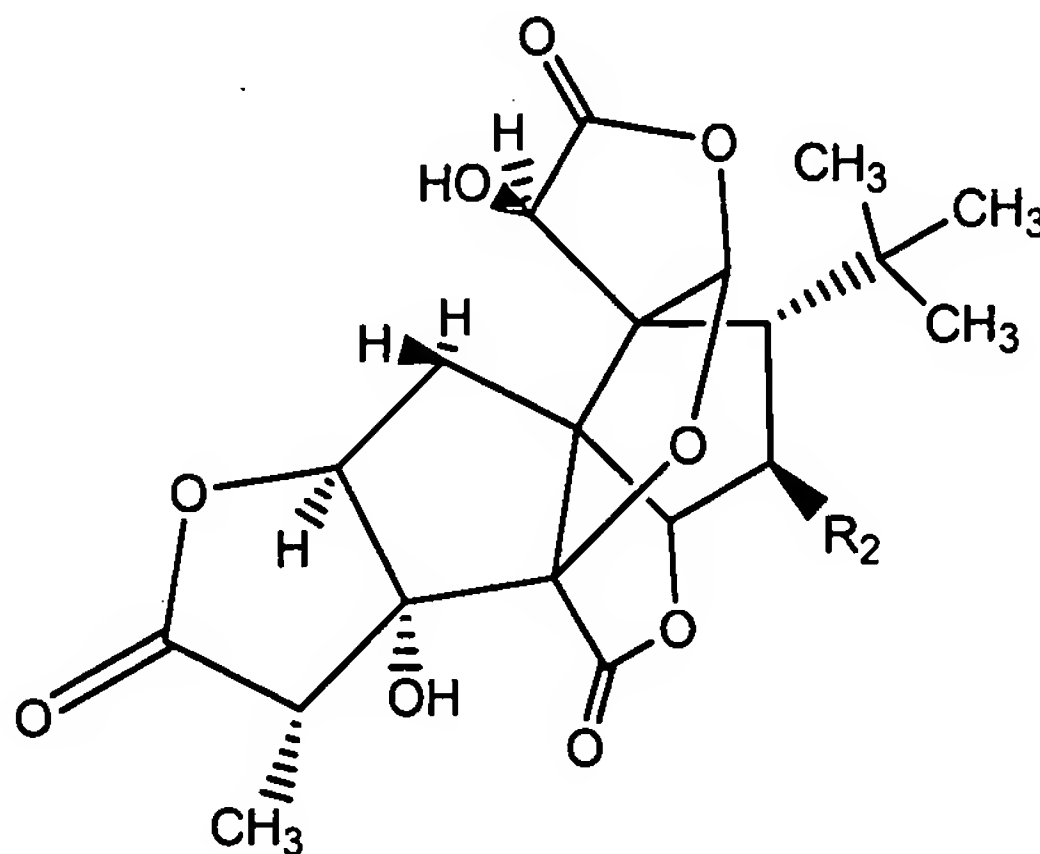
42. (Currently Amended): A method of treating a neurological or neurodegenerative disease or disorder ~~in a mammal~~ comprising administering to a subject an enriched *Ginkgo biloba* extract comprising at least about 60% terpene trilactones.

43. (Original): A method of protecting a neuron against neuronal cell death or long term potentiation impairment by beta amyloid protein comprising contacting the neuron with an enriched *Ginkgo biloba* extract comprising at least about 60% terpene trilactones.

44. (Currently Amended): A method of identifying a receptor that binds a compound that protects against neuronal cell death or long term potentiation impairment by beta amyloid protein comprising administering the phosphodiesterase ~~inhibitor~~ inhibitor to a subject a compound having the formula:



45. (Original): A method of identifying a receptor that binds a compound that protects against neuronal cell death or long term potentiation impairment by beta amyloid protein comprising administering to a subject a compound having the formula:



wherein R₂ is a detectable moiety.

46. (Original): The method of claim 44 or 45, wherein the detectable moiety comprises a photoactivatable moiety, a fluorescent moiety, or a radioactive moiety.

47. (Currently Amended): A method for treating Alzheimer's disease comprising administering to a subject a composition consisting essentially of a pharmaceutical carrier and an effective amount of the ~~compound, composition, or extract of any one of claims 1-33~~ compound of claim 1, or the composition of claim 2, 12, 13, 16, 17, 19, 26, or 27, or the extract of claim 30 or 31.

48. (Original): A method for treating Alzheimer's disease comprising administering to a subject a composition consisting essentially of a pharmaceutical carrier and an effective amount of Ginkgolide J.

49. (Original): A method for protecting a neuron against neuronal cell death or long term potentiation impairment by beta amyloid protein comprising contacting the neuron with a composition consisting essentially of a pharmaceutical carrier and an effective amount of Ginkgolide A.

50. (Original): A method for protecting a neuron against neuronal cell death or long term potentiation impairment by beta amyloid protein comprising contacting the neuron with a composition consisting essentially of a pharmaceutical carrier and an effective amount of Ginkgolide J.

51. (Original): A method for stimulating axonal out growth of a neuron comprising contacting the neuron with a composition consisting essentially of a pharmaceutical carrier and an effective amount of Ginkgolide A.

52. (Currently Amended): The compound of claim 1, ~~composition, or extract of any one of claims 1-33 which~~ wherein the compound is derived from a naturally occurring source.

53. (Currently Amended): The compound,~~composition, or extract~~ of claim 52, wherein the source is the *Ginkgo Biloba* tree.

54. (New): The composition of claim 2, 12, 13, 16, 17, 19, 26, 27, or 29, wherein the composition is derived from a naturally occurring source.

55. (New): The composition of claim 54, wherein the source is the *Ginkgo Biloba* tree.

56. (New): The extract of claim 30 or 31, wherein the extract is derived from a naturally occurring source.

57. (New): The extract of claim 56, wherein the source is the *Ginkgo Biloba* tree.